

**PATENT APPLICATION**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Yoshiro SHIOKAWA, Megumi NAKAMURA,  
Tohru SASAKI and Toshihiro FUJII

Application No.: New US Patent Application

Filed: June 1, 2001

Docket No.: 109675

For: METHOD AND APPARATUS FOR ION ATTACHMENT MASS SPECTROMETRY

**PRELIMINARY AMENDMENT**

Director of the U.S. Patent and Trademark Office  
Washington, D. C. 20231

Sir:

Prior to initial examination, please amend the above-identified application as follows:

Please replace claims 3, 4, 8 and 12 as follows:

3. (Amended) A method of ion attachment mass spectrometry as set forth in claim 1, wherein a quantitative value is calculated for said each component using sensitivity corresponding to the total pressure during measurement.
4. (Amended) A method of ion attachment mass spectrometry as set forth in claim 1, wherein the total pressure during the measurement is set within an allowable fluctuation of total pressure.
8. (Amended) An apparatus for ion attachment mass spectrometry as set forth in claim 6, further provided between said reaction chamber and said analysis chamber with a differential evacuation chamber of a reduced pressure atmosphere for connecting said two chambers in a vacuum state.

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12. (Amended) An apparatus for ion attachment mass spectrometry as set forth in claim 10, wherein

the allowable fluctuation of total pressure is calculated from a rate of change of sensitivity corresponding to the total pressure of said reduced pressure atmosphere during the measurement and a required quantitative error value.

Please add new claims 13-16 as follows:

--13. A method of ion attachment mass spectrometry as set forth in claim 2, wherein a quantitative value is calculated for said each component using sensitivity corresponding to the total pressure during measurement.--

--14. A method of ion attachment mass spectrometry as set forth in claim 2, wherein the total pressure during the measurement is set within an allowable fluctuation of total pressure.--

--15. An apparatus for ion attachment mass spectrometry as set forth in claim 7, further provided between said reaction chamber and said analysis chamber with a differential evacuation chamber of a reduced pressure atmosphere for connecting said two chambers in a vacuum state.--

--16. An apparatus for ion attachment mass spectrometry as set forth in claim 11, wherein

the allowable fluctuation of total pressure is calculated from a rate of change of sensitivity corresponding to the total pressure of said reduced pressure atmosphere during the measurement and a required quantitative error value.--

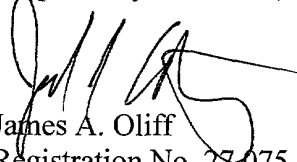
#### REMARKS

Claims 1-16 are pending. Claims 3, 4, 8 and 12 are amended to eliminate multiple dependencies and claims 13-16 are added to compensate for subject matter deleted from

multiple dependent claims 3, 4, 8 and 12. Prompt and favorable consideration on the merits is respectfully requested.

The attached Appendix includes marked-up copies of each rewritten claim (37 C.F.R. 1.121(c)(1)(ii)).

Respectfully submitted,



James A. Oliff  
Registration No. 27,075

Joel S. Armstrong  
Registration No. 36,430

JAO:JSA/zmc

Attached:  
APPENDIX

Date: June 1, 2001

**OLIFF & BERRIDGE, PLC**  
**P.O. Box 19928**  
**Alexandria, Virginia 22320**  
**Telephone: (703) 836-6400**

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## APPENDIX

## Changes to Claims:

Claims 13-16 are added.

The following are marked-up versions of the amended claims:

3. (Amended) A method of ion attachment mass spectrometry as set forth in claim 1 ~~or~~ 2, wherein a quantitative value is calculated for said each component using sensitivity corresponding to the total pressure during measurement.

4. (Amended) A method of ion attachment mass spectrometry as set forth in claim 1 ~~or~~ 2, wherein the total pressure during the measurement is set within an allowable fluctuation of total pressure.

8. (Amended) An apparatus for ion attachment mass spectrometry as set forth in claim 6 ~~or~~ 7, further provided between said reaction chamber and said analysis chamber with a differential evacuation chamber of a reduced pressure atmosphere for connecting said two chambers in a vacuum state.

12. (Amended) An apparatus for ion attachment mass spectrometry as set forth in claim 10 ~~or~~ 11, wherein

the allowable fluctuation of total pressure is calculated from a rate of change of sensitivity corresponding to the total pressure of said reduced pressure atmosphere during the measurement and a required quantitative error value.